

U.S. Application No.: 10/623,949
AMENDMENT A

Attorney Docket: 3827.116

REMARKS

Review and reconsideration of the Office Action of October 4, 2005, are respectfully requested in view of the above amendments and the following remarks.

Status of Claims

Claims 1-8 are pending in the application.

Claims 1-8 are rejected.

Applicants respectfully traverse.

Specification

The Examiner points out typographical errors in the specification.

Applicants appreciate the helpful recommendations of the Examiner and amend the specification as suggested.

Claim Objections

Claim 2 is objected to because of informalities.

Applicants amend claim 2.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 has been amended

Claims Rejections - §112

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for
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failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 has been amended

Claims Rejections - §102

Claims 1-3 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Ueda et al. (U.S. Patent 5,620,284 A).

Applicants respectfully traverse.

The defining characteristic of the present invention is that

- identical cutting inserts are used for milling different surfaces
- each cutting insert has each cutting blade surface divided into at least two blade segments, each intended to be used for cutting a different facet (e.g., a first segment for milling a valve seat ring, a second segment for milling an inlet protection bevel, and a third segment for producing an outlet protection bevel)
- insert receptacles having different orientations, such that the cutting insert when inserted in e.g., a first receptacle it is indexed for machining e.g., a valve seat ring, when the second (identical) cutting insert is in the second receptacle it is indexed for milling an inlet protection bevel, and when the third (identical) cutting insert is in a third receptacle, it is indexed for producing an outlet protection bevel,
- the different milled surfaces are cut by different blade segments, such that when a cutting insert in the first receptacle is worn out for cutting valve seat rings, it can be moved to the second receptacle and used for milling an inlet protection bevel, and when worn from this work, can be moved to a third receptacle and used for producing an outlet protection bevel.

Accordingly, in the present invention when a cutting insert is worn it is not expended, rather, it is moved to a different receptacle, thus the useful life is doubled or trippled.

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For this reason claim 1 ends with the requirement "wherein for each of the various blade receptacles (18, 18', 18'') respectively only one of the cutting segments (36, 36', 36'') of the indexable cutting inserts is effective with the associated adjustment angle (α , α' , α'').

This limitation is missing from the references cited by the Examiner.

Turning to Ueda et al, this reference is concerned with wear of the receptacle or blade, and addresses the problem by providing a sacrificial spacer, such that vibration of the blade wears the spacer which can then be replaced.

Ueda et al teach forming two beveled surfaces in a first step and forming a third surface by sliding slider 16 along the generatrix via a coupling pin.

Ueda et al provides no suggestion for the present distinguishing claim limitation. Applicants submit that Ueda et al read alone provides no suggestion for the present invention, absent hindsight reconstruction based on reading of the present specification.

It is noted that the Examiner refers to Fig. 4 of Ueda et al for teaching that the blades are divided into at least two blade segments - contact edge and non-contact edge. However, the present claims require the blades to have multiple non-overlapping (sequential) contact surfaces, each corresponding to a different receptacle.

Accordingly, Ueda et al does not teach the present invention.

Next, Claims 1-3 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Berry, Jr. (U.S. Patent 4,210,406 A).

Applicants respectfully traverse in view of the amendment of claim 1 to recite that identical indexable cutting inserts (20, 20', 20'') are provided in the different blade receptacles (18, 18', 18''), and for the distinctions discussed above regarding Ueda et al.

Applicants further point out that the objective of Berry, Jr. is to select, position and shape the inserts such that the cutting action of each tooth (the volume of material to be removed by each tooth per revolution) is equalized (col. 1, lines 29-35).

As seen in Figs. 4 and 8, the cutting inserts are not identical, and are not interchangeably useable in the various receptacles.

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It can further be seen that cutting edges of blades 30, 40 and 80 performs cutting along their entire length. Clearly, this reference does not anticipate the present invention wherein the cutting edges (34) of the indexable cutting inserts (20, 20', 20'') are subdivided along their length into at least two blade segments (36, 36', 36'') in alignment with each other, such that for each of the various blade receptacles (18, 18', 18'') respectively only one of the cutting segments (36, 36', 36'') of the indexable cutting inserts is effective with the associated adjustment angle (α , α' , α'').

Next, Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Hulsebus et al. (U.S. Patent 5,890,850 A).

Applicants have carefully reviewed this reference and respectfully submit that this reference provides no anticipating teaching, considering the above distinguishing remarks.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al. in view of Kress et al. (U.S. Patent 4,975,002 A).

Applicants have carefully reviewed the secondary reference and (a) submit that this dependent claim is patentable by virtue of its dependency from claim 1, and (b) submit that the secondary reference does not provide teaching missing from the primary reference.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al. in view of Satran et al. (U.S. Patent 6,164,878 A).

Applicants have carefully reviewed the secondary reference and (a) submit that this dependent claim is patentable by virtue of its dependency from claim 1, and (b) submit that the secondary reference does not provide teaching missing from the primary reference.

Accordingly, withdrawal of the rejection is respectfully requested.

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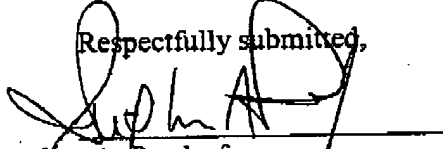
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Early issuance of the Notice of Allowance are respectfully requested. Should further issues remain prior to allowance, the Examiner is respectfully requested to contact the undersigned at the indicated telephone number.

Respectfully submitted,


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